

AMENDMENT AND PRESENTATION OF CLAIMS

Please replace all prior claims in the present application with the following claims, in which claims 1-2, 6, 58-59, 63, and 112-113 are currently amended.

1. (Currently Amended) An integrated system for providing ~~a plurality of communications network management services and products~~ to a customer over the public internet, ~~said network management services and products accessible from a client~~ at a workstation employing a client browser associated with said customer and receiving web based communications from a ~~communications service enterprise~~, said system comprising:

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- (a) one or more secure web servers for managing one or more secure client sessions over the internet in response to customer entry into said system, each said one or more secure web servers supporting secure communications with said client workstation;
 - (b) one or more client applications ~~integrated within a web-based GUI and downloaded from the one or more secure web servers according to pre-determined customer entitlements,~~ each of said one or more client applications for providing a customer interface integrated within ~~said~~ a web-based GUI and enabling interactive communications with one or more communications network management resources ~~provided by said communications service enterprise~~ via the one or more secure web servers; and,
 - (c) each of said one or more secure web servers supporting communication of request messages entered by said customer via said customer interface to said one or more network management resources ~~providing a desired communications network management function;~~

wherein one or more remote application ~~resource processes~~ resources process said request messages and ~~provides~~ provide responses to said one or more secure web servers for secure uploading to said client browser and display via said integrated customer interface, wherein at least one of the one or more network management resources comprises an authentication server for downloading a logon object to be launched within said web-based GUI, the logon object accepting logon transactions from the customer and communicating with said authentication server for authentication of said customer, wherein upon successful authentication of said customer, the logon object is configured to send a command to the authentication server to initiate a download of said one or more client applications.

E' 2. (Currently Amended) The integrated system as claimed in claim 1, wherein said one or more secure web servers ~~supports support~~ a secure sockets layer communications protocol including secure socket connections for encrypted communication between said client browser and said secure web server, said one or more secure servers also providing session management including at least one of customer identification, validation, entitlements, and encryption to link said session with said customer.

3. (Previously Presented) The integrated system as claimed in Claim 2, further comprising a dispatch server for communicating with said one or more secure servers and a plurality of said one or more remote application resources, said dispatch server providing verification of system access and proxy generation for said system resources after said customer's entitlements have been verified.

4. (Previously Presented) The integrated system as claimed in claim 2; wherein said system includes digital certificates to authenticate a secure web server to said client web browser.

5. (Previously Presented) The integrated system as claimed in Claim 2, wherein said downloaded web-based GUI comprises a backplane object downloaded with, and launched by said web-based GUI, said backplane object launching said one or more client applications upon initiation by said customer, the backplane object further enabling inter-application communications among the client applications and also with said backplane object,

wherein said backplane object and the client applications interoperate with one another to

E provide said integrated customer interface to a plurality of communications network management products and services subscribed by the customer.

6. (Currently Amended) The integrated system as claimed in claim 5, ~~wherein at least one of the one or more network management resources comprises a server for providing a customer authentication function and for downloading a logon object to be launched by said web-based GUI, the logon object accepting logon transactions from the customer and creating a session object for communicating with said first server to provide said customer authentication,~~

wherein upon successful ~~customer validation~~ authentication of said customer, the logon object ~~sends~~ is further configured to send a command to the authentication server to download said ~~one or more client applications~~ and said web-based GUI having the backplane object.

7. (Previously Presented) The integrated system as claimed in claim 6, further comprising:
a user object for representing a current customer, the user object communicating with said authentication server to determine the customer's entitlements to the web enabled communications network management services,
wherein the backplane uses the entitlements to display via said integrated interface only those web enabled services and products to which the user has privilege.

E 8. (Previously Presented) integrated system as claimed in claim 7, wherein at least one of said one or more client applications is invoked directly by the backplane object when the user selects the service associated with the client application, the selected client application running in a frame independent from a web browser's window.

9. (Original) The integrated system as claimed in claim 7, wherein the client application is a program launched from a new browser window created by the backplane.

10. (Previously Presented) The integrated system as claimed in claim 7, wherein the backplane object maintains session information received from a network management resource in static memory for the duration of a session, and enables the one or more client applications to access the static memory.

11. (Original) The integrated system as claimed in claim 7, further comprising a set of common graphical user interface objects for enabling the client applications and the backplane to provide common look-and-feel desktop window management features.

12. (Previously Presented) The integrated system as claimed in claim 10, wherein at least one of the one or more network management resources comprises a server for providing a customer data report management function comprising and a database for maintaining an inventory of reports associated with a customer, at least one of said one or more client applications including:

a report requestor application enabling creation and scheduling of customer specific reports pertaining to usage of their switched communications networks and initiating generation of report request messages for said one or more network management resources via said integrated interface; and,

a report viewer application enabling display of reports in accordance with customer-entitled reporting options.

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13. (Previously Presented) The integrated system as claimed in claim 12, wherein said report manager server accesses report items from said database according to a received report request message, and generates a response message including a metadata description of reporting items to be included in said report,

wherein customer-specific data from at least one of said one or more network management resources and said metadata description of customer-selected reporting items are utilized to generate a completed report for presentation to said customer via said integrated interface.

14. (Previously Presented) The integrated system as claimed in claim 13, wherein said report requestor application enables customization of reporting items to be included in said customer report, said server for providing a customer authentication function providing said reporting

items customized according to said customer entitlements to said report requestor application when generating a report request message.

15. (Previously Presented) The integrated system as claimed in claim 13, wherein at least one of the one or more network management resources further comprises a report scheduler system for initiating periodic generation of reports from other network management resources at a customer-specified frequency.

E' 16. (Previously Presented) The integrated system as claimed in claim 15, wherein at least one of the one or more network management resources includes a database for storing and maintaining customer specific report data to be reported to said customer, and, a centralized inbox server for receiving a report availability response from said report management server including a metadata description for generating said report,

said inbox server uploading said stored customer specific report data and the metadata description associated with the report data to said client workstation via the one or more secure web servers for generation and presentation of a customer report via said integrated interface.

17. (Previously Presented) The integrated system as claimed in claim 16, at least one of said one or more client applications comprises an inbox client application launched by the backplane for storing a notification alert received from said inbox server, said inbox client application receiving and presenting the notification alert to the customer via said integrated interface.

18. (Previously Presented) The integrated system as claimed in claim 17, wherein the inbox client application further includes a polling thread for detecting an incoming message from the inbox server via a first secure connection, the polling thread further starting a new thread upon detection of the incoming message, wherein the new thread starts and listens on a second secure connection for detecting new messages, while the polling thread receives the incoming message on a first secure connection, and

wherein multiple messages are downloaded simultaneously as detected.

E 19. (Original) The integrated system as claimed in claim 16, wherein the database for storing and maintaining said customer specific reporting data further comprises a pre-defined directory associated with each of the one or more network management resources, wherein each of the one or more network management resources stores the report data and the notification alert data to its respective pre-defined directory in the inbox server.

20. (Previously Presented) The integrated system as claimed in Claim 16, wherein at least one of the one or more network management resources provides a priced call detail data reporting function for providing customer specific data pertaining to usage of a customer's switched communications network.

21. (Previously Presented) The integrated system as claimed in Claim 20, wherein a at least one of the one or more network management resources providing a priced call detail data reporting function comprises:

a system for extracting call detail data records from billing systems generating priced call detail records specific to a customer's communications network,

a system for harvesting said extracted priced call detail records for storage in an database storage device; and

a decision support server for receiving customer request messages for said priced call detail data, said decision support server accessing said customer-specific priced call detail data from said database storage device and transmitting said customer-specific priced call detail data to said inbox server in accordance with said customer request.

E¹ 22. (Original) The integrated system as claimed in Claim 21, wherein a reporting option includes running a pre-defined report at a pre-determined frequency, said report scheduler system communicating a message to said decision support server to run said pre-defined report at said pre-determined frequency, each said pre-defined report being updated with recent customer-specific priced call detail data available at a run time.

23. (Previously Presented) The integrated system as claimed in Claim 16, wherein at least one of the one or more network management resources provides a near real-time unpriced call detail data reporting function for providing customer specific data pertaining to usage of a customer's switched communications network, said unpriced call detail data reporting service receiving customer request messages for customer-specific unpriced call detail data and transmitting said customer-specific unpriced call detail data to said inbox server in accordance with said customer request.

24. (Original) The integrated system as claimed in Claim 23, wherein a reporting option includes running a customer-defined unpriced call detail data report at a predetermined

frequency, said report scheduler system communicating a message to an unpriced call detail data reporting server for obtaining recent customer-specific unpriced call detail data.

25. (Previously Presented) The integrated system as claimed in Claim 23, wherein at least one of the one or more network management resources comprises:

E (a system for generating statistical data based on real-time call data obtained from a circuit-switched communications network, said statistical data being generated according to said customer entitlements; and,
a client application for integrating retrieved statistical data within a Web-based GUI for presentation to said customer via said integrated interface, said Web-based GUI being updated to contain statistical data at customer-specified time intervals.

26. (Original) The integrated system as claimed in Claim 25, wherein said customer entitlement includes specification of one or more toll free numbers

associated with a customer's communications network for which statistical data are to be generated.

27. (Original) The integrated system as claimed in Claim 26, wherein said system for generating statistical data includes script mechanism for initiating update of said web-based GUI with most recent statistical data.

28. (Previously Presented) The integrated system as claimed in Claim 25, wherein at least one of the one or more network management resources comprises:

a communications network configuration device for maintaining an inventory of customer's network call routing plans and associated call routing plan details, and interfacing with a plurality of network control elements for configuring a customer's communications network according to a desired call routing plan; and,
a network management server for receiving customer request messages for accessing said call routing plan details from said communications network configuration device, retrieving said call routing plan details according to customer entitlements, and downloading said call routing plan details for customers via said integrated interface.

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29. (Previously Presented) The integrated system as claimed in Claim 28, wherein said report requestor application enables generation of messages specifying customer modification of said call-routing plan, said network management server receiving said messages via said integrated interface and translating said received modification request into commands for input to said network configuration device,

wherein said commands are forwarded to said network control elements for configuring said customer's network according to said request.

30. (Original) The integrated system as claimed in Claim 29, wherein said modification request messages includes a unique customer identifier enabling downloading of specific call routing plan details associated with said customer identifier.

31. (Previously Presented) The integrated system as claimed in Claim 30, further comprising a customer request message, said customer request message including an order for modifying an existing customer network call routing plan for a predetermined period of time, said network management server enabling said customer network to automatically revert to a corresponding call routing plan configured prior to invocation of said order at a customer-specified revert time.

E 32. (Previously Presented) The integrated system as claimed in Claim 31, wherein said customer request message includes an order for modifying a percent allocation of call traffic routed to a network number used in a particular call routing plan for a predetermined period of time, said network management server enabling said allocation of call traffic routed to a number to automatically revert to a corresponding percent allocation specified prior to invocation of said order at a customer-specified revert time.

33. (Previously Presented) The integrated system as claimed in Claim 28, wherein at least one of the one or more network management resources comprises:

a customer's switched data circuit network; and,

a device for periodically polling network switches of said switched data circuit network to obtain network performance data relating thereto and temporarily storing said network performance data; said integrated system further comprising: a broadband network server for receiving customer request messages for reporting network performance data, retrieving said network performance data according to customer entitlements, and downloading said network performance data to said customer for presentation via said integrated interface.

34. (Original) The integrated system as claimed in Claim 33, wherein said report viewer application enables display of broadband network reports in accordance with selected customer reporting options, said customer reporting options including specification of graphical, tabular, and map views of said network performance data.

35. (Original) The integrated system as claimed in Claim 34, wherein said report viewer application includes support for simultaneous multiple graph reporting views of specific broadband network performance data.

E 36. (Original) The integrated system as claimed in Claim 35, wherein said customer's switched data network generates alarm status indications, said broadband network server receiving said alarm status indications pertaining to said customer's network and communicating alarm status data to said customer workstation via said integrated interface.

37. (Original) The integrated system as claimed in Claim 36, wherein said report requestor application enables generation of messages specifying network performance thresholds for enabling reporting of specific data network behavior via said integrated interface.

38. (Original) The integrated system as claimed in Claim 37, wherein said report viewer supports display of a graphical view comprising an area map view having indicators depicting locations of a customer's data network, said report viewer application enabling said customer to select said indicators on said graphical representation and provide a textual view of network performance characteristics relating to physical circuits supported at said selected network location.

39. (Original) The integrated system as claimed in Claim 38, wherein said physical circuits supported at said selected network location includes permanent virtual circuits.

E 40. (Previously Presented) The integrated system as claimed in Claim 33, wherein at least one of the one or more network management resources includes a system for providing an alarm management function including a device for deriving performance alarms based on performance statistics collected on the performance of a customer's data network; said integrated system further comprising: an event monitor server for receiving and storing the network performance statistics and the derived alarms from the deriving device, and communicating said network performance statistics and the derived alarms for presentation to said customer via said integrated interface.

41. (Original) The integrated system as claimed in claim 40, wherein said report requestor application further enables customers to define and submit network performance thresholds specifying reporting of specific network behavior via said integrated interface, said event monitor server enabling filtering of said network alarms and performance statistics according to the customer-defined threshold for presentation to the customer at the client workstation.

42. (Previously Presented) The integrated system as claimed in claim 41, wherein said report requestor application further enables customers to define and enter troubleshooting procedures for specific alarms or circuits pertaining to the data network via the integrated interface.

43. (Previously Presented) The integrated system as claimed in claim 42, wherein at least one of said one or more client applications associated with said event monitor server enables

customers to acknowledge receipt of a network alarm, via said integrated interface, said event monitor server comprising a process for automatically launching the trouble shooting procedure upon acknowledgment of the alarm associated with the trouble shooting procedure.

44. (Canceled)

45. (Previously Presented) The integrated system as claimed in Claim 110, wherein the database of image files further includes an object database, said invoice application server further comprising:

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a means for imaging documents by defining key information necessary to retrieve documents from the communications application service and compress the documents for storing;
and

a means for loading the compressed documents into the object database.

46. (Original) The integrated system as claimed in Claim 45, wherein the database of image files further includes an index database, said invoice application server further including index load process for storing index pointers pointing to the compressed documents into the index database.

47. (Previously Presented) The integrated system as claimed in Claim 28, wherein at least one of the one or more network management resources further comprises a system for providing a circuit switched call center management function, said integrated system further comprising:

a client application downloaded from the one or more secure web servers for enabling a customer to monitor, define, and manipulate call routing parameters, the client

application further formatting customer defined parameters into client message transactions and communicating the client message transactions to the secure server over the secure connection; and,

a routing engine device for maintaining call routing rules and interfacing with said plurality of network control elements for directing call routing and receiving data statistics, the routing engine device further using the rules, the data statistics, and the customer defined parameters in determining where to route calls, whereby customer control of call routing via said integrated interface is enabled.

E' 48. (Previously Presented) The integrated system as claimed in Claim 47, further comprising a proxy server for processing a plurality of transaction requests received from the client application via the one or more secure servers by opening a connection to the routing engine device and retrieving information relating to the transaction requests and forwarding back the information to the client application via one or more secure servers, and wherein the client application presents the information to the customer at the client workstation.

49. (Previously Presented) The integrated system as claimed in Claim 48, further comprising one or more databases for storing the data statistics generated by the routing engine device and the plurality of network control elements, said one or more databases residing with the proxy server, the proxy server further processing predetermined transaction requests locally by retrieving information related to the transaction requests from said one or more database(s), and forwarding the information to the one or more client applications.

50. (Previously Presented) The integrated system as claimed in Claim 3, wherein said session management provided by said one or more secure servers includes web cookie generation at each instance of client identification to link a session with said client through a plurality of discrete client communications in said session to verify said client to said dispatch server at each transmission in said session.

E 51. (Original) The integrated system as claimed in Claim 50, wherein said cookie is generated by a program on a separate server during an entitlements communications, after identification and authentication of the client.

52. (Original) The integrated system as claimed in Claim 51, wherein said client web browser secure socket layer encrypts client identification, authentication and said session management cookie during each transmission.

53. (Original) The integrated system as claimed in Claim 52, wherein said session cookies provide simultaneous session management for a plurality of system resource platforms.

54. (Previously Presented) The integrated system as claimed in Claim 53, further including RSA encryption for transmission of all customer data between said one or more secure servers and said dispatch server, and SSL encryption for transmission of all customer data between said secure web server and said client web browser.

55. (Original) The integrated system as claimed in Claim 54, wherein each client request from said web browser is encrypted with a public key provided by said communications network, and each of said client requests includes an encrypted client cookie for client authentication.

56. (Original) The integrated system as claimed in Claim 28, further comprising:

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a client application downloaded from the secure web server for enabling a customer to generate trouble tickets to be processed by a trouble ticket resolution entity; and,
a service inquiry application server for receiving requests for a customer's trouble ticket information, translating said requests into commands for retrieving trouble ticket information from said communications network configuration device, and downloading response messages including said requested trouble ticket information to said customer via said integrated interface.

57. (Original) The integrated system as claimed in Claim 28, further comprising:

a client application downloaded from said secure web server for enabling customers to manage and track outbound network management features associated with that customer's communications network; and, an outbound network management server for receiving requests for outbound network management features associated with a customer network including calling party numbers, dialing plans, calling card number and customer identification code sets, or, combinations thereof, translating said received requests into commands for retrieving said outbound network management feature information from said communications network configuration device, and downloading response messages including said requested outbound network management feature information to said customer via said integrated interface.

58. (Currently Amended) A method for enabling ~~customer~~ management of communications network assets via the ~~public~~ internet, ~~including provision of a plurality of services and products~~ accessible from a client workstation employing a client browser associated with a customer ~~and~~ ~~capable of receiving web based communications from said communications service enterprise,~~ said method comprising:

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- (a) enabling interactive communications between said system and said customer over the ~~public~~ Internet with ~~an object oriented~~ a protocol invoked from within said client web browser, ~~said protocol supporting customer identification, authentication and a determination of network entitlements for the customer;~~
 - (b) managing a plurality of customer sessions over the ~~public~~ Internet with a secure web server, ~~said secure web server providing session encryption and management of the customer's session, said session management including the steps of identifying, validating, and determining the customer's entitlements within the network;~~
 - (c) initiating a download of a web-based GUI from said secure web server, said downloaded web-based GUI ~~of~~ for launching one or more of a plurality of client applications available to a customer ~~according to pre-determined customer entitlements,~~
 - (d) providing a customer interface integrated within said web-based GUI upon which to launch a selected client application, said customer interface enabling interactive communication of request messages with one or more of a plurality of communications network management resources capable of providing a selected communications network management function;
 - (e) a communications network management resource receiving said request messages, generating a ~~proxy request~~ response, and communicating said ~~responses~~ response to said

secure web server for secure uploading to said customer workstation for display via said integrated interface,

wherein said method further comprises downloading a logon object to be launched by said web-based GUI for accepting logon transactions from the customer and communicating with said authentication server to provide said customer authentication and, upon successful authentication of the customer, sending a command to the authentication server to download said one or more client applications.

E' 59. (Currently Amended) The method as claimed in claim 58, wherein a secure web server supports a secure sockets layer communications protocol, said secure web server supporting ~~secure socket connections for~~ encrypted communication between said client web browser and said secure web server, said secure server also providing session management including at least one of client identification, validation, and session management to link said session with said client.

60. (Previously Presented) The method as claimed in Claim 58, further comprising providing a dispatch server for communicating with said secure web server and each of said plurality of said network management resources, said dispatch server verifying system access and proxy generation for said system resources after said customer's entitlements have been verified.

61. (Previously Presented) The method as claimed in claim 60, further employing digital certificates to authenticate said secure web server to said client web browser.

62. (Previously Presented) The method as claimed in Claim 60, wherein said downloaded web-based GUI comprises a backplane object downloaded with, and launched by said web based GUI, said backplane object launching said client applications programs upon initiation by said customer, wherein said backplane object and the client applications interoperate with one another to provide said integrated customer interface to a plurality of communications network management products and services subscribed by the customer.

E (63. (Currently Amended) The method as claimed in claim 62, ~~wherein a network management resource comprises a server for providing a customer authentication function, said~~ method comprising:

~~downloading a logon object to be launched by said web-based GUI;~~

~~accepting logon transactions from the customer and creating a session object for communicating with said authentication server to provide said customer authentication;~~
~~and,~~

upon successful ~~customer validation~~ authentication of the customer, sending a command to the authentication server to download ~~said one or more client applications and said web-based GUI having the backplane object.~~

64. (Previously Presented) The method as claimed in claim 63, further comprising:

providing a customer object for representing a current customer, the customer object communicating with said authentication server to determine the customer's entitlements to the web enabled communications network management services,
wherein the backplane uses the entitlements to display via said integrated interface only those web enabled services to which the customer has privilege.

65. (Previously Presented) The method as claimed in claim 64, further including the step of: executing one or more of said plurality of client applications directly by the backplane object when the customer selects one or more of said plurality of client applications associated with a desired communications network management service, the selected client application running in a frame independent from a web browser's window.

E 66. (Previously Presented) The method as claimed in claim 65, further including the step of: maintaining session information received from at least one of said one or more network management resources in static memory for the duration of a session, and enabling the client applications to access the static memory.

67. (Previously Presented) The method as claimed in claim 65, wherein said one or more of said plurality of said client applications utilizing a set of common graphical user interface objects and the backplane for providing common look-and-feel desktop window management features.

68. (Previously Presented) The method as claimed in claim 66, wherein at least one of said one or more network management resources comprises a report manager server for providing a customer data report management function and a database for maintaining an inventory of reports associated with a customer, said method further comprising:

providing a report requestor client application enabling creation and scheduling of customer specific reports pertaining to usage of their switched communications networks and initiating generation of report request messages for said one or more network management resources via said integrated interface; and,

providing a report viewer application enabling display of reports in accordance with customer-entitled reporting options.

69. (Previously Presented) The method as claimed in claim 68, further comprising:

accessing report items from said database of inventory reports according to a received report request message; and,

generating a response message including a metadata description of reporting items to be included in said report,

wherein customer-specific data from a network management resource and said metadata description of customer-selected reporting items are utilized to generate a completed report for presentation to said customer via said integrated interface.

70. (Original) The method as claimed in claim 68, wherein said report requestor application enables customization of reporting items to be included in said customer report, said authentication server providing said reporting items capable of being customized according to said customer entitlements to said report requestor application when generating a report request message.

71. (Original) The method as claimed in claim 69, further including: providing a report scheduler system for initiating periodic generation of reports from network management resources at a customer-specified frequency.

72. (Previously Presented) The method as claimed in claim 71, wherein at least one of said one or more network management resources includes a database for storing and maintaining

customer specific report data to be reported to said customer, and, a centralized inbox server for receiving a report availability response from said report management server including a metadata description for displaying said report, said method comprising:

uploading said stored customer specific report data and the metadata description associated with the report data from said inbox server to said client workstation via a secure web server for generation and presentation of a customer report via said integrated interface.

E 73. (Original) The method as claimed in claim 72, wherein said inbox server stores a notification alert received from a network management resource that a generated report is available, said method including: launching an inbox client application from the backplane for receiving and presenting the notification alert to the customer via said integrated interface.

74. (Previously Presented) The method as claimed in claim 73, further comprising:
implementing a polling thread in said inbox client application for detecting an incoming message from the inbox server via a first secure connection; and
starting a new thread upon detection of the incoming message, wherein the new thread starts and listens on a second secure connection for detecting new messages, while the polling thread receives the incoming message on a first secure connection.

75. (Original) The method as claimed in claim 74, further including:
defining a pre-defined directory in said Inbox server and customer specific reporting data storage database, a pre-defined directory being associated with each of the one or more network management resources, each of the network management resources storing

reporting data and the notification alert data to its respective pre-defined directory in the inbox server.

76. (Previously Presented) The method as claimed in Claim 74, wherein at least one of said one or more network management resources provides a priced call detail data reporting process for providing customer specific data pertaining to usage of a customer's switched communications network, said priced call detail data reporting process comprising the steps of:

extracting call detail data records from billing systems generating priced call detail records specific to a customer's communications network,

harvesting said extracted priced call detail records for storage in a database storage device;

and implementing decision support server for receiving customer request messages for said priced call detail data, accessing said customer-specific priced call detail data from said database storage device, and transmitting said customer-specific priced call detail data to said inbox server in accordance with said customer request.

77. (Original) The method as claimed in Claim 76, further comprising:

running a pre-defined report at a pre-determined frequency, said report scheduler system communicating a message to said decision support server to run said pre-defined report at said pre-determined frequency, each said pre-defined report being updated with recent customer-specific priced call detail data available at a run time.

78. (Previously Presented) The method as claimed in Claim 74, wherein at least one of said one or more network management resources provides a near real-time unpriced call detail data

reporting function for providing customer-specific unpriced call detail data pertaining to usage of a customer's switched communications network, said method comprising:

providing an unpriced call detail data reporting server for receiving customer request messages for their unpriced call detail data;

obtaining said customer specific unpriced call detail data; and,

transmitting said customer-specific unpriced call detail data to said inbox server in accordance with said customer request.

E (79. (Original) The method as claimed in Claim 78, wherein a reporting option includes running a customer-defined unpriced call detail data report at a pre-determined frequency, said report scheduler system communicating a message to said unpriced call detail data reporting server for obtaining recent customer-specific unpriced call detail data.

80. (Previously Presented) The method as claimed in Claim 78, wherein at least one of said one or more network management resources comprises a system for generating statistical data based on real-time call

data obtained from a circuit-switched communications network, said statistical data being generated according to said customer entitlements, said method comprising:

integrating retrieved statistical data within a Web-based GUI for presentation to said customer via said integrated interface, said Web-based GUI being updated to contain statistical data at customer-specified time intervals.

81. (Original) The method as claimed in Claim 80, further including specifying one or more toll free numbers associated with a customer's communications network for which statistical data are to be generated.

82. (Original) The method as claimed in Claim 80, further comprising: implementing a script mechanism for initiating update of said web-based GUI with most recent statistical data.

E' 83. (Previously Presented) The method as claimed in Claim 72, wherein at least one of said one or more network management resources comprises a communications network configuration device for maintaining an inventory of customer's network call routing plans and associated call routing plan details, and interfacing with a plurality of network control elements for configuring a customer's communications network according to a desired call routing plan; said method further comprising:

providing a network management server for receiving customer request messages for accessing said call routing plan details from said communications network configuration device;

retrieving said call routing plan details according to customer entitlements; and,

downloading said call routing plan details for presentation to customers via said integrated interface.

84. (Original) The method as claimed in Claim 83, further comprising:

generating a customer request message specifying customer modification of said call-routing plan, said network management server receiving said request messages via said integrated interface and translating

said received modification request into commands for input to said network configuration device; and, forwarding said commands to said network control elements for configuring said customer's network according to said request.

85. (Previously Presented) The method as claimed in Claim 84, wherein said customer request message includes a unique customer identifier enabling downloading of specific call routing plan details associated with said customer identifier.

86. (Original) The method as claimed in Claim 83, further comprising:

generating a customer request message including an order for modifying an existing customer network call routing plan for a predetermined period of time, said network management server enabling said customer network to automatically revert to a corresponding call routing plan configured prior to invocation of said order at a customer-specified revert time.

87. (Original) The method as claimed in Claim 83, further comprising:

generating a customer request message including an order for modifying a percent allocation of call traffic routed to a network number used in a particular call routing plan for a predetermined period of time, said network management server enabling said allocation of call traffic routed to a number to automatically revert to a corresponding percent allocation specified prior to invocation of said order at a customer-specified revert time.

88. (Previously Presented) The method as claimed in Claim 83, wherein at least one of said one or more network management resources comprises: a customer's switched data circuit

network; and, a device for periodically polling network switches of said switched data circuit network to obtain network performance data relating thereto and temporarily storing said network performance data, said method further comprising:

providing a broadband network server for receiving customer request messages for reporting network performance data;
retrieving said network performance data from temporary storage according to customer entitlements;
downloading said network performance data to said customer for presentation via said integrated interface.

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89. (Previously Presented) The method as claimed in Claim 88, further comprising:

enabling display of broadband network reports in accordance with selected customer reporting options, said customer reporting options including specification of graphical, tabular, and map views of said network performance data.

90. (Previously Presented) The method as claimed in Claim 88, wherein said report viewer application includes supporting simultaneous multiple graph reporting views of specific broadband network performance data.

91. (Previously Presented) The method as claimed in Claim 88, wherein said customer's switched data network generates alarm status indications, said broadband network server receiving said alarm status indications pertaining to said customer's network and communicating alarm status data to said customer workstation via said integrated interface.

92. (Previously Presented) The method as claimed in Claim 91, further comprising the step of generating customer request messages specifying network performance thresholds for enabling reporting of specific data network behavior via said integrated interface.

E 93. (Previously Presented) The method as claimed in Claim 92, wherein said report viewer supports display of a graphical view comprising an area map view having indicators depicting locations of a customer's data network, said method including enabling said customer to select said indicators on said graphical representation and providing a textual view of network performance characteristics relating to physical circuits supported at said selected network location.

94. (Previously Presented) The method as claimed in Claim 88, wherein said network management resource includes a system for providing an alarm management function including a device for deriving performance alarms based on performance statistics collected on the performance of a customer's data network; said method further comprising:

providing an event monitor server for receiving and storing the network performance statistics and the derived alarms from the deriving device, and communicating said network performance statistics and the derived alarms for presentation to said customer via said integrated interface.

95. (Previously Presented) The method as claimed in claim 94, further enabling customers to define and submit network performance thresholds specifying reporting of specific network behavior via said integrated interface, said event monitor server filtering said network alarms and

performance statistics according to the customer defined threshold for presentation to the customer at the client workstation.

96. (Previously Presented) The method as claimed in claim 95, further comprising define and entering troubleshooting procedures for specific alarms or circuits pertaining to the data network via the integrated interface.

E 97. (Previously Presented) The method as claimed in claim 96, providing a client application for enabling customers to acknowledge receipt of a network alarm, via said integrated interface, said event monitor server automatically launching a trouble shooting procedure upon acknowledgment of the alarm associated with the trouble shooting procedure.

98. (Canceled)

99. (Previously Presented) The method as claimed in Claim 111 wherein the database of image files further includes an object database, said invoice application server further:

converting invoice documents to images;

defining key information necessary to retrieve documents from the communications network

management resource application service and compressing the documents for storing; and

loading the compressed documents in the index database.

100. (Previously Presented) The method as claimed in Claim 99, wherein the database of image files further includes an index database, said method further including storing index pointers for pointing to the compressed documents in the index database.

101. (Previously Presented) The method as claimed in Claim 72, wherein a network management resource further comprises a system for providing a circuit switched call center management function, said method further comprising:

downloading a client application from the secure web server for enabling a customer to monitor, define, and manipulate call routing parameters, the client application further formatting customer defined parameters into client message transactions and communicating the client message transactions to the secure server over the secure connection; and,

E¹ providing a routing engine device for maintaining call routing rules and interfacing with said plurality of network control elements for directing call routing and receiving data statistics, the routing engine device further using the rules, the data statistics, and the customer defined parameters in determining where to route calls, whereby customer control of call routing via said integrated interface is enabled.

102. (Previously Presented) The method as claimed in Claim 101, further comprising: processing a plurality of transaction requests received from the client application via the secure server by opening a connection to the routing engine device; and, retrieving information relating to the transaction requests and forwarding back the information to the client application via the secure server, said client application presenting the information to the customer at the client workstation via said integrated interface.

103. (Previously Presented) The method as claimed in Claim 102, further comprising: providing one or more database(s) for storing the data statistics generated by the routing engine device and the plurality of network control elements, said one or more databases operating in

conjunction with a proxy server for processing predetermined transaction requests locally by retrieving information related to the transaction requests from said one or more database(s), and forwarding the information to the client application.

104. (Original) The method as claimed in Claim 60, further including the step of generating a web cookie at each instance of client identification to link a session with said client through a plurality of discrete client communications in said session to verify said client to said dispatch server at each transmission in said session.

E' 105. (Previously Presented) The method as claimed in Claim 104, wherein said cookie is generated by a program on a separate server during an entitlements communications, after identification and authentication of the client.

106. (Previously Presented) The method as claimed in Claim 105, further including: encrypting client identification, authentication and said session management cookie during each transmission.

107. (Original) The method as claimed in Claim 106, wherein said session cookies provide simultaneous session management for a plurality of system resource platforms.

108. (Previously Presented) The method as claimed in Claim 107, further including encrypting transmission of all customer data between said secure web server and said dispatch server using RSA encryption, and encrypting transmission of all customer data between said secure web server and said client web browser using SSL encryption.

109. (Previously Presented) The method as claimed in Claim 108, further including encrypting each client request from said web browser with a public key provided by said communications network, and each of said client requests includes an encrypted client cookie for client authentication.

110. (Previously Presented) The integrated system as claimed in Claim 28, wherein said one or more network management resources includes a system for generating invoice documents relating to communications management services provided by a communications service enterprise, said integrated system further comprising:

E¹ a client application downloaded from the one or more secure web servers for enabling selection and presentation of invoice documents in accordance with customer entitlements, said client application further generating an invoice request message in response to customer selection of a specific invoice option and forwarding the invoice request message via the secure web server; and

an invoice application server for maintaining a database of image files associated with invoice documents from the application service and receiving the invoice request messages, said invoice application assigning the database in response to a request message, generating a response message include a customer selected invoice document, and downloading said response message to said client workstation, whereby said customer selected invoice document is formatted in a manner suitable for display via said integrated client interface.

111. (Previously Presented) The method as claimed in Claim 72, wherein said one or more network management resources include a system for generating invoice documents relating

to communications network manage services provided by said communications service enterprise, said method further comprising:

downloading a client application from the secure web server for enabling selection and

presentation of invoice documents in accordance with customer entitlements;

generating customer request messages including customer selection of a specific invoice option;

providing an invoice application server for maintaining a database of image files associated with invoice documents from the application service, said invoice application sever receiving the invoice request message from said customer;

accessing the database in response to a request message;

generating a response message including a customer selected invoice document;

downloading said response message to said client workstation; and,

formatting said customer selected invoice document in a manner suitable for display via said integrated client interface.

112. (Currently Amended) An integrated system for providing network management to a customer employing a browser in communication with a communications service enterprise over an internet, comprising:

a web server for managing a client session over the internet in response to customer entry into said integrated system, said web server in communication with said client browser for supporting communication of request messages received from the browser to a network management resource; and

a client application integrated for use within the browser and downloadable from the web server ~~in accordance with a predetermined customer entitlement~~, said client application programmed to be in interactive communications with the network management resource, wherein the web server is configured to download a logon object to the browser for authenticating the customer and upon successful authentication of the customer to initiate a download of the client application for use within the browser.

E 113. (Currently Amended) A method for providing network management to a customer employing a browser in communication with a communications service enterprise over an internet, said method comprising:

managing a client session over the internet with a secure web server in response to customer entry and supporting communication of request messages received from the browser to a network management resource;

downloading a logon object to the browser for authenticating the customer and, upon successful authentication of the customer, initiating a download of a client application integrated for use within the browser ~~in accordance with a predetermined customer entitlement~~, said client application programmed to be in interactive communications with the network management resource.
